Name:

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Geometry, Period

Due Date: Fri, 9 Jan 2015

**Geometry**

**Homework**



**I. Graphing.** Use your graphing calculator to answer the questions below. Althouth each graph will be given in the formula of (h for heigh, t for time), you will need to graph them as on your calculator. Trace the graph of each problem, then answer the questions. The graph does not need to be perfect, just have a reasonably close height & x-intercepts.

1. 
   1. Graph the parabola on your calculator, then sketch here:
   2. What is the vertex?
   3. Is this a minimum or a maximum?
   4. What is the height after 1 second?
   5. How many x-intercepts are there?   
        
      What are they?
   6. At what time did the ball hit the ground?



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**II.** If Billy threw a baseball straight up in the air, releasing it updwards at a height of 6 feet and at a speed of 20 feet/second, what would the equation for its height be? (Assume Billy is throwing the ball on Earth with normal gravity.) ***h =*** – ***16t2 +*** \_\_\_\_\_\_\_\_ ***t + \_\_\_\_\_\_\_\_\_***

1. Graph this to the left.
2. Write the two solutions (roots).
3. Explain at what time the ball will hit earth (h=0).

**III.** Below are equations for four different balls that were released under slightly different conditions. Explain each one.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Question:** answer to right |  |  |  |  |
| 1. What are the *a*, *b,* & *c* values of the quadratic equation? | *a= b= c=* | *a= b= c=* | *a= b= c=* | *a= b= c=* |
| 2. What is the starting height? |  |  |  |  |
| 3. What is the starting speed? |  |  |  |  |
| 4. How was the ball released? (thrown up, down, or dropped) |  |  |  |  |
| 5. Graph the arc of the ball’s projectile motion (parabola) for each equation | http://www.pleacher.com/mp/mgifs/gifs2/graphm.gif | http://www.pleacher.com/mp/mgifs/gifs2/graphm.gif | http://www.pleacher.com/mp/mgifs/gifs2/graphm.gif | http://www.pleacher.com/mp/mgifs/gifs2/graphm.gif |
| 6. What is the vertex of the parabola? |  |  |  |  |
| 7. Is the vertex a minimum or a maximum? |  |  |  |  |
| 8. What is the height of the ball after 0.5 second? |  |  |  |  |
| 9. Which answer to #8 does not make sense? Why? |  | | | |
| 10. What are the two x-intercepts? |  |  |  |  |
| 11. Which x-intercept is when the ball hit the ground? |  |  |  |  |
| 12. How were you able to eliminate the other possible solution in all of these graphs? |  | | | |